* CARD PACK
(see reverse of mtr. overleaf)

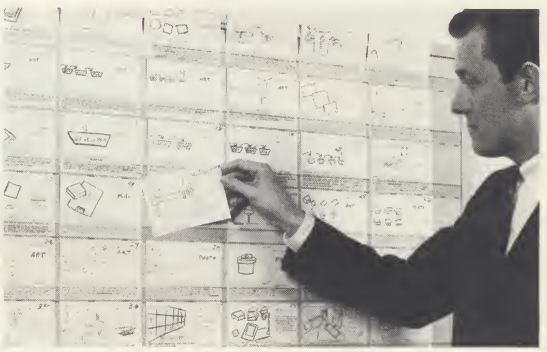
Planning a Slide Talk

PROBLEM: How to plan a well-coordinated slide or filmstrip talk with a minimum investment of time.

Kodak JOB SHEET NO. 4 A SERVICE FOR INDUSTRIAL PHOTOGRAPHERS

A planningboard provides one of the best ways to plan and produce an effective slide or filmstrip talk. A planningboard is simply a wooden board which holds a number of 4 by 6-inch cards in acetate channels. Each card deals with a single slide or filmstrip frame and contains a description and sketch of the visual, and a summary of what will be said about the visual. This system allows great flexibility because cards can be moved about freely until the author is satisfied with the sequence and content of his talk.

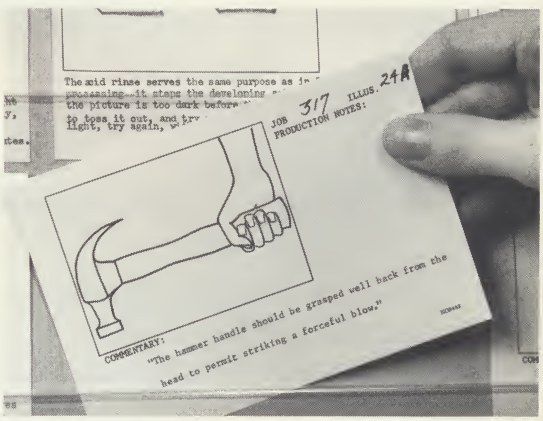
With the cards in place, the planningboard shows at a glance the continuity of the presentation and how the narrative ties in with the visuals. At this point, there is no need for an illustration list or a script; all of the information is contained on the planningboard. If the author requires a script when he delivers the talk, the script can be made directly from the planningcards, or the planningcards themselves can be used as a lectern guide or script.



The Planningboard Card

Ideally, author, photographer, and possibly an audiovisual expert work as a team, filling out a planningcard for each slide or filmstrip frame. (A typical format for a planningcard is shown below.) Use the lower part of the card for the idea continuity or the commentary that will be given while that illustration is being projected for the audience. In the rectangle on the left side, pencil in a rough sketch of the major elements of the photograph or artwork to be made.

On the right-hand side of the card list specific production notes for preparing the actual photograph or artwork (long shot, extreme close-up, background color, etc.). In the upper right-hand corner of the card, list the job number, the illustration number, and any other information needed for production control.



After the cards are filled out, line them up in sequence on the planningboard. This idea sequence becomes the nucleus of the entire production of the talk. Everyone involved in the planning and production can consult the planningboard as the authority for content and sequence of both narration and visuals.

Advantages of the Planningboard System

The planningboard system, which is widely used by many companies, has many advantages. First of all, it helps the author organize his story. On the planningboard, ideas are readily shuffled, added, or deleted. The author can also review or pretest the subject matter by "talking through" the presentation with colleagues or the photographer.

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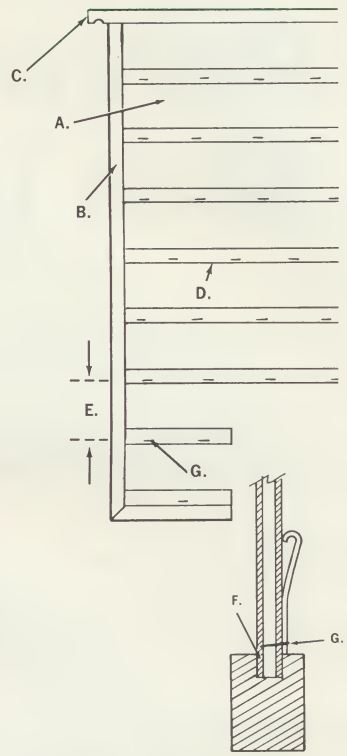
Developing a sequence this way, point by point, has proven to be easier than writing a script that must then be illustrated paragraph by paragraph. The result of the latter method is too often a slow-moving talk with visuals that are poorly integrated.

Using a planningboard also makes production easier. Before a single picture is taken, the photographer becomes familiar with the entire story line and can see how each illustration relates to others in the sequence. Because the planningboard approach forces the author to clear up any fuzzy thinking about the actual content of each picture, there is rarely any need for reshooting. Production time is also saved if widely separated portions of the talk call for the same photographic setup; this can easily be noted on the planningboard.

Planningboard Construction



A. Panel: ¼-inch fir plywood, 48 by 31⅞ inches

B. Frame: 1 by ¾-inch pine, rabbeted ¼ by ¼-inch to fit panel.

C. Hangers: 1-inch frame extensions, grooved to fit ½-inch-diameter wall pegs

D. Card Retainers*: See detail drawing

E. Retainer Spacing: 4 inches, center to center

F. Rabbet Detail

G. Retainer Staple: ¼-inch gun type

Planningcard Design

JOB ILLUS.
PRODUCTION NOTES:

COMMENTARY:

The rectangle and captions above can be used as camera copy for printing on 4 by 6-inch cards. Note that the ruled rectangle is roughly proportional to the dimensions of a 35mm transparency. For a square or vertical image, use an appropriate portion of the rectangle.

Planningcards should be 4 by 6 inches in size and about the same weight as file cards. They can be printed on office duplicating equipment or, for large quantities, ordered from a printing firm.

More Information

You can find more help in these KODAK Publications*:

Title	Code No.	Price
Producing Slides and Filmstrips	S-8	$1.00
Audiovisual Planning Equipment	S-11	Free
Planning and Producing Visual Aids	S-13	Free

*Both free and priced publications are available from your Kodak dealer or from Department 454, Eastman Kodak Company. Orders for priced publications should be prepaid (including applicable taxes).

*The planningcard retainer strips (D) are prefabricated plastic strips that are available in sets of 8 from Chicago Paper Box Company, 732 North Morgan Street, Chicago, Illinois 60622. Each strip is 47 inches long. The current price per set is $4.75, plus postage. Order as follows:

.....(quantity) Sets of 8 Planning Strips, 0.015-inch KODACEL TA-401 Sheet, with ⅛-inch flat bead on one edge.

Each retainer strip must be mounted with the bead side against the panel, as shown in the detail drawing. This provides the tension for holding the cards in place.

Professional, Commercial, and Industrial Markets Division

EASTMAN KODAK COMPANY · ROCHESTER, N. Y. 14650

KODAK Job Sheet No. 4
Planning a Slide Talk
KODAK Pamphlet No. P-100-4

5-67 New Pamphlet
CH-AE
Printed in the United States of America

publicity portraits

Kodak JOB SHEET

NO. 2 A SERVICE FOR INDUSTRIAL PHOTOGRAPHERS

PROBLEM: How to make a formal, head-and-shoulders portrait for a publicity release, house organ, newspaper, etc.

The purpose of this Job Sheet is to outline a standard portrait setup that will help you to take a picture that not only will reproduce well, but also will be somewhat flattering to your subject. It is not *the purpose of this Job Sheet to turn you into a skilled portraitist, and we urge that any portraiture being considered for board-room or reception-area display be done by a professional portrait photographer.*

Lighting Your Subject

Basic Considerations. The single most important thing to remember about lighting your subject is that there should be *one dominant, or main, light source;* all other lights should be subordinate to it. The placement of this main light determines the type of lighting used. The two types of lighting which we will cover in this Job Sheet are:

1. *Broad Lighting.* The main light illuminates the side of the face turned *toward* the camera.

2. *Short Lighting.* In contrast to broad lighting, the main light illuminates the side of the face turned *away* from the camera.

The choice between broad or short lighting will depend upon your subject. Oval and broad faces lend themselves to short lighting; narrow faces need broad lighting. In the diagram below, note that the width of the highlighted area of each facial type is roughly the same. The principle, in brief, is that the broader the face, the more of it should be kept in shadow; and, conversely, the narrower the face, the more of it should be highlighted. It is for this reason that the triangular highlight on the cheek of the broad face is intentionally smaller than that on the normal face. This cheek highlight is reduced by moving the main light slightly farther around the subject. This adjustment is delicate, and its effect can be judged accurately *only* from the camera position.

Broad lighting, used less frequently than short lighting, requires additional care and skill. The broad position of the main light means that too great a portion of the near side of the subject's face, including the ear, will be highlighted excessively. To keep this area in shadow, you must have some way of controlling the distribution of light. This shading can be done by feathering the light, or by using "barn doors" or head screens (see illustrations on page 2).

A normal, oval face illuminated by short lighting.

A broad face illuminated by short lighting. The main light is moved farther to the left.

A narrow face illuminated by broad lighting.

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"Feathered" lighting means illumination by the peripheral area of the light cone. The light is usually feathered so that the reflector axis is in front of the subject.

An alternate method of shading the nearest ear is to use a barn-door baffle attached to the lamp reflector. Barn doors are also useful in shading bald heads.

A head screen provides more positive shading control.

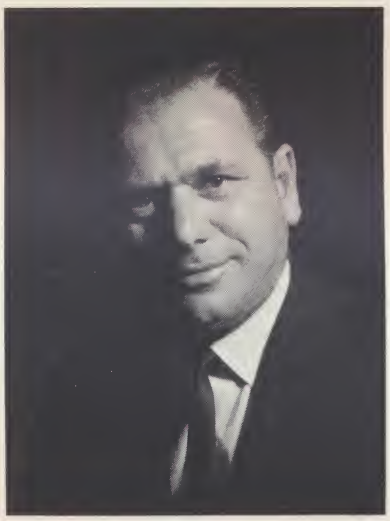
Placing the Lights

The Main Light

For head-and-shoulders portraiture, place the main light 4 to 6 feet from your subject and at approximately 45 degrees to one side of the camera-subject axis. This light should be about 1 to 2 feet higher than the subject's head. Position the light so that it puts a catchlight in both eyes, *as seen from the position of the camera lens.* The exact height of this light will depend upon the facial structure of the subject.

Main light (broad-lighting position), no controls.

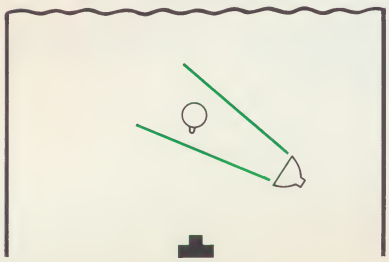
Main light (broad-lighting position), head screen added.



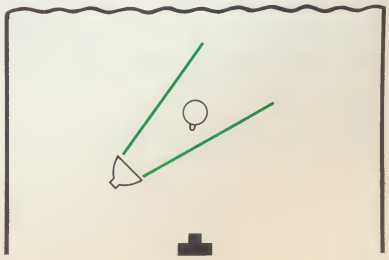
Note these points: (a) The far cheek is illuminated with a triangular highlight. (b) The nose shadow extends downward at about a 45-degree angle toward the far corner of the mouth. (c) There is a prominent catchlight in both eyes at about the one o'clock position.

Watch for these points: (a) The near cheek has a triangular highlight. (b) The edge of the nose shadow does not coincide with the smile line. If it did, the smile line would appear too deep. (c) Catchlights appear at about the eleven o'clock position.

Broad-lighting position.



Short-lighting position.



Most portrait photographers use a "raw," or undiffused, main light because it creates more "sparkle" in the highlights. Sometimes, however, a diffused main light is desirable because it is easier to control, minimizes facial textures, and cuts down on the amount of retouching, if any, that may need to be done.

The Fill Light

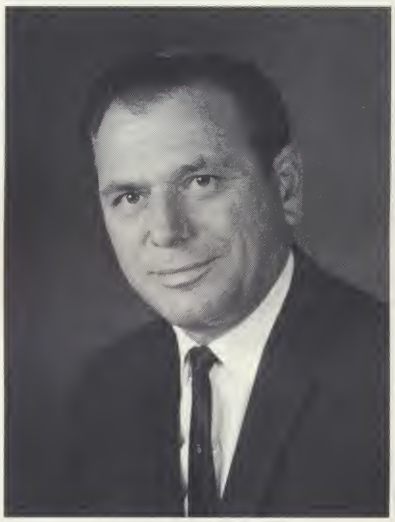
Place this light close to the camera at about lens height, and at the side opposite the main light. You may have to change the position of the fill light slightly for people who wear glasses, in order to avoid reflections. Generally, the fill light is diffused and should cover the entire subject, if possible. Bounce light is best for filling since no shadows are cast. You can bounce the light in a number of ways; an umbrella reflector is good, or you can use a piece of white cardboard or blotter or aluminum foil wrapped around a piece of cardboard.

The lateral position of the fill light is determined to some extent by the intensity of the facial highlights that the light causes. Again, *the effect must be observed from the camera position.* If the skin reflection is too strong, these highlights can be reduced by moving the light slightly.

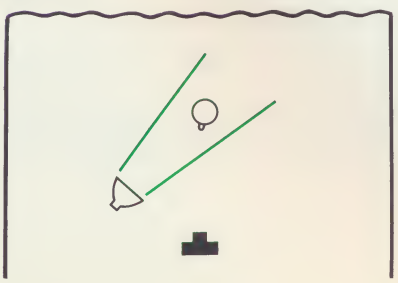
The fill light may add a lower catchlight to each eye. These secondary catchlights may be objectionable because they sometimes create the impression of a directionless stare. They can either be etched out on the negative or, more easily, removed by spotting on the print.

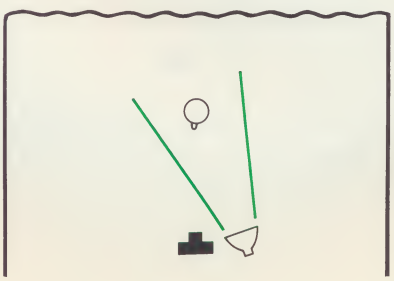
Main light only, short-lighting position.

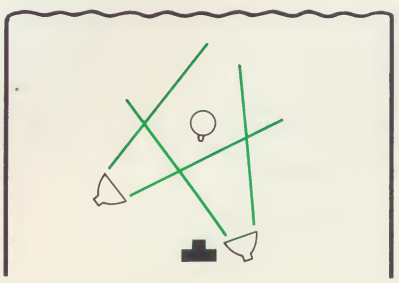
Fill light only. For a short-lighting buildup like this, the fill light is placed at the right of the camera to create a 3:1 lighting ratio. For broad lighting, the fill light should be placed at the left of the camera.



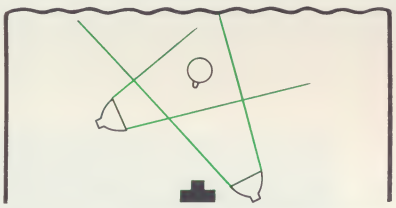
Main light (short-lighting position), plus fill light.



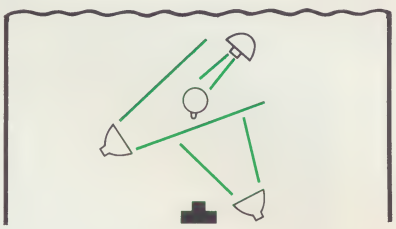




Short lighting, no hair light.



Short lighting, hair light added.



There are three general positions relative to the subject for effective use of a hair light: directly overhead, to the right or left of the hair, or above and to one side of the subject. Here it is placed above and on the side opposite the main light. A good technique is to bring the light forward until it spills over onto the forehead; then move it back just enough to keep it off the forehead.

The Hair Light

This is usually a small lighting unit placed on a boom so that it shines down from above and behind the subject. It not only adds some detail to the reproduction of the hair, but also helps provide subject-background separation.

The intensity of the hair light will vary with the subject since it will be dictated not only by the color of a person's hair, but also by the amount of sheen the hair has.

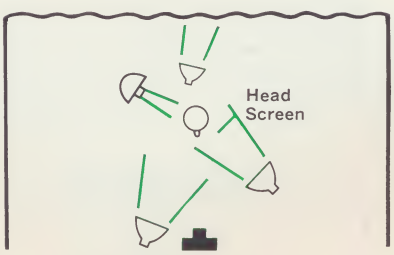
Be sure that the hair light is turned off when taking an exposure-meter reading. This light does not affect the basic exposure, but it could influence your meter. Also be careful that the light does not shine directly into the camera lens.

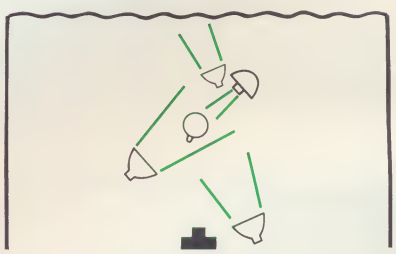
The Background Light

Use a light of about the same intensity as the fill light. Place it on a short stand about midway between the subject and the background. Adjust this light so that it gives good tonal separation between the subject and the background—too much light on the background tends to overpower the subject. (If possible, use a medium-gray background; this will help give subject-background separation.)

Broad-lighting position.

Short-lighting position.





The lightest background tone should be on the side that the subject faces. A helpful technique is to first aim the background light directly at the subject. (Subject's shadow should cover the camera.) Then rotate the light 180 degrees to face the background, and make the final adjustments.

Lighting Ratio

"Lighting ratio" refers to the relative intensity between the main light *plus* fill-in light and the fill-in light alone *when the measurements are taken at the subject position.* Generally, for normal contrast in portraits, the ratio between these two intensities should be about 3:1. A 3:1 ratio is achieved when the main light is twice as bright as the fill light (if the fill light is placed close to the camera). Thus the fill light from the front places one unit of light over the entire face, while the stronger main light from the side places two units of light on *only* the main-lighted areas of the face. There is only one unit of light in the shadows, but this unit added to the two units from the main light makes three units on the main-lighted areas. A typical 3:1 lighting ratio setup is shown in the diagram at the right.

Establishing the Ratio. There are several simple ways to establish a 3:1 lighting ratio. You can:

1. Use a main light which has twice the intensity of the fill light, and place both lights at equal distances from the subject.

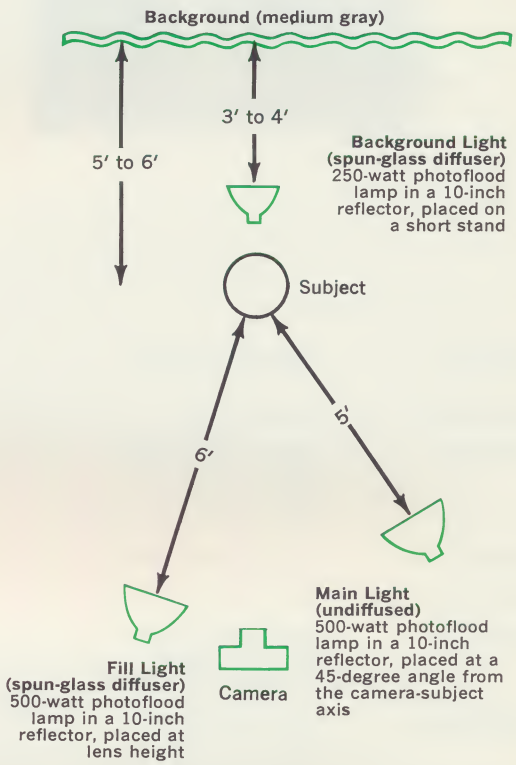
2. Use two identical lights, placing the main light closer to the subject. You can figure the distances for the lights quickly by thinking of your lens openings (*f*-numbers) as a distance scale. With this system, you get a 3:1 ratio if the main light is "1 stop closer" to the subject than the fill light. For example, if the fill light at the camera position is 5.6 feet, place the main light 4 feet from the subject; if the fill light at the camera position is 11 feet, place the main light 8 feet from the subject; and so on.

3. *Use an exposure meter.* This is the best method because, unlike methods 1 and 2 above, you can introduce various lighting controls (bouncing, feathering, or baffling the lights) and still be able to establish a 3:1 lighting ratio quickly and accurately. Proceed as follows:

(a) Incident-light readings—Read the fill light alone, directing the meter toward the camera lens (your exposure should be based on this reading). Next, turn off the fill light and read the main light alone, turning the meter until it gives the maximum reading. (The actual reflectance is not important since you are only making comparative readings.) Adjust the main light so that your meter reads twice the number of footcandles as for the fill-light reading.

(b) Reflected-light readings—Make your readings from the light reflected from a test card, such as the KODAK Neutral Test Card, held close to and in front of the subject. Either the gray side or the white side can be used. Proceed as for incident-light readings. When fill-in illumination is read, the card should face the camera lens, and the main light should be off. When main-light illumination is read, the card should be turned to the position which gives the maximum reading on the light-meter scale.

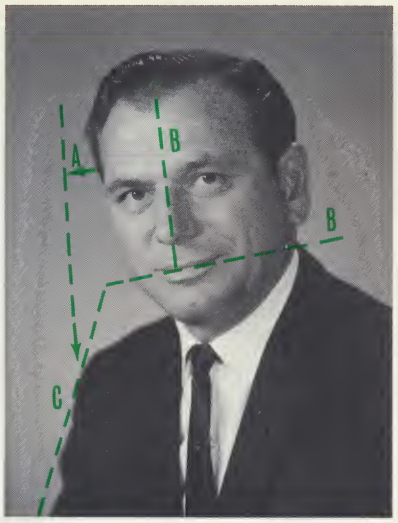
A Typical Portrait Setup for a 3:1 Lighting Ratio



Film: KODAK TRI-X Pan (ESTAR Thick Base)

Exposure: 1/10 second at f/11

Exposure-meter Readings:
Main Light—260 footcandles
Fill Light—130 footcandles
Background Light—150 to 200 footcandles



Posing Your Subject

For a head-and-shoulders portrait of a man, you should generally pose him as shown in the picture at the left. Note the following:

- The seam of the far shoulder is just outside the line of the head (line A).
- The arm is held slightly away from the body. If it is tucked in too close, sharp wrinkles are created in the clothing (line C).
- The ear on the far side is not shown.
- The head is tipped slightly. This makes the line of the nose and mouth slightly diagonal, creating a feeling of motion. When the head is not tipped, the vertical nose line and horizontal mouth line make the subject appear static, or motionless (line B).

Corrective Techniques

The points we have covered so far would, in most cases, help you to take a picture that would be a good likeness of your subject. However, the objective in portrait photography is to present the subject at his best—to idealize him. There are a number of techniques involving lighting, posing, and camera angle which you can use to improve a subject's appearance. Some of the more common difficulties, along with suggested treatment, are given in the table at left.

Difficulty	Suggested Treatment
Narrow chin	Tilt chin upward.
Baldness	Lower camera position. Screen to shield head. Use no hair light. Blend head with background.
Angular nose	Turn face toward lens.
Long nose	Use a low camera angle.
Broad face	Raise camera position. Use short lighting. Turn face to ¾ position.
Narrow face	Lower the main light. Use broad lighting.
Wrinkled face	Use diffuse lighting. Lower the main light.
Double chin	Raise both the main light and the fill light. Tilt chin upward. Use high camera position.
Facial defects	Keep defects on shadow side.
Prominent ears	Hide far ear behind head. Keep near ear in shadow. Consider profile view.
Glasses	Tilt downward by elevating bows slightly. Adjust fill light laterally. Raise or lower chin slightly. Use a small light-source for small reflection.
Deep-set eyes	Lower the main light. Use lower lighting ratio.
Protruding eyes	Have subject look downward.
Heavy-set figure	Use short lighting. Use dark clothing. Blend body with background. Pose standing.

Standardizing

Even if you only make an occasional portrait, it will be worth your while to standardize as much as possible on equipment, film exposure, and processing and printing. Once you have zeroed in on your equipment and methods of working (don't forget to write it down!), future portrait assignments will be relatively easy. Furthermore, pictures that are of uniform quality not only look better, but are easier for a printer to handle. You should find the following suggestions helpful.

Film

See the table below for the films we recommend.

KODAK Black-and-White Films for Portraiture

With Tungsten Lights		With Electronic Flash	
Sheet Film	Roll Film	Sheet Film	Roll Film
TRI-X Pan (ESTAR Thick Base)	TRI-X Pan TRI-X Pan Professional	PLUS-X Pan (ESTAR Thick Base) LS Pan (ESTAR Thick Base)	PLUS-X Pan Professional

Lens Choice

Generally, a long-focal-length lens gives the best perspective for portraiture. The rule of thumb for head-and-shoulders work is to use a lens that has a focal length from 1½ to 2 times the diagonal of the film.

Bellows Factor

When you work with lenses of longer focal length, the amount of bellows extension you use can have a considerable effect on exposure. The rule is that when the camera lens is extended to focus on subjects closer than eight times its focal length, you must allow for the change in effective *f*-number. This correction can be made easily by following the directions given in the *KODAK Master Darkroom Dataguide* or the *KODAK Color Dataguide* (both sold by your Kodak dealer).

Determining Exposure

Find a willing subject (preferably one who has an average oval face that will not present any special lighting problems). Set up your lights for a short-lighting buildup and establish a 3:1 lighting ratio. *Take an incident-light meter reading of the fill light only* (this is the light that will determine shadow detail in your picture). If you use a reflected-light meter for this reading, then make your reading from a test card, such as the KODAK Neutral Test Card. Follow the instructions given with the card.

Some photographers base their exposure on a reading of the main-light illumination. This will work when black-and-white negative films are used, because of the wide exposure latitude of these films. With negative color films, however, the exposure latitude is not as wide (particularly on the underexposure side); therefore, when color films are used, exposure readings *must* be based on the fill-light illumination.

Exposure Series. Next, shoot a series of exposures from 1 stop under to 2 stops over your meter reading. Ideally, this series should be in ½-stop intervals, and you should make three such sets of negatives.

Process one set of negatives at the recommended development time, another set at approximately 30 percent less than the recommended time, and the third set at approximately 30 percent more than the recommended time. Our first choice for a developer is KODAK POLYDOL Developer, but you can also achieve excellent results with KODAK HC-110 Developer or KODAK Developer D-76.

Printing the Negative. From these negatives, pick the one that has good highlight detail (subject's face) and the amount of shadow detail that you wish (shoulder area of a dark coat). The negative should have a density range that will fit your choice of paper.

Your aim should be to pick the negative that will print straight on a No. 2 contrast grade of paper, or on one of KODAK's variable-contrast papers when you expose it through a KODAK POLYCONTRAST Filter, PC 2½. For reproduction purposes, you should choose a paper surface that has a fairly smooth texture and a glossy or lustre finish. Any of the following surfaces are good for publicity portraits: F, J, N, or E.

More Information

You can find more help on portraiture in the following publications:

Title	*KODAK Publication No.*
Studio Techniques for Portrait Photography	O-4
Negative Making with KODAK Black-and-White Sheet Films	F-5
Professional Printing with KODAK Photographic Papers	G-5

These publications are priced at $1.00 each and are available either from your Kodak dealer or by prepaid order (including applicable taxes) from Eastman Kodak Company.

Professional, Commercial and Industrial Markets Division

EASTMAN KODAK COMPANY • ROCHESTER, N.Y. 14650

KODAK Job Sheet No. 2—Publicity Portraits
KODAK Pamphlet No. P-100-2

4-67 New Pamphlet
CH-AE
Printed in the United States of America

PRODUCT PHOTOGRAPHY

Eliminating a Background

Kodak JOB SHEET NO. 3 A SERVICE FOR INDUSTRIAL PHOTOGRAPHERS

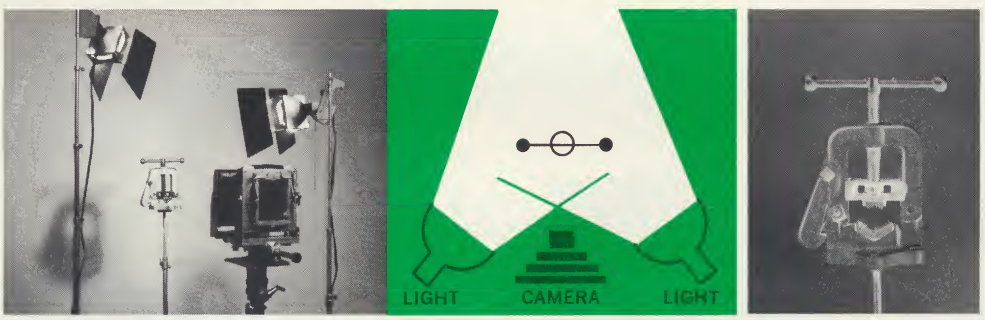
PROBLEM: How to eliminate, or "block out," a background for product pictures.

In this Job Sheet we will outline a simple two-negative photographic technique for eliminating an unwanted background in a product picture. Briefly, the technique is this: Two separate exposures are made of your product setup—one exposure of the product alone made with a continuous-tone film and one exposure of the background alone made with a high-contrast film. The two negatives are then registered and printed as a single negative.

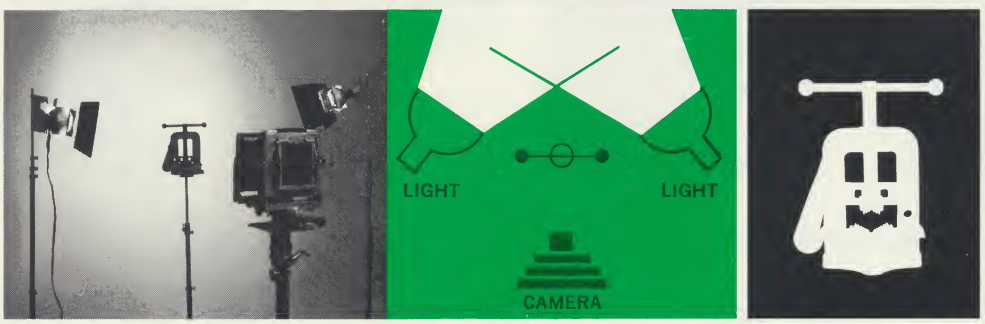
This technique of eliminating a background offers distinct advantages over the more commonly used hand-blocking and light-box methods. Great labor savings over the hand-blocking method are realized; flare and halation around the edges of the product, a problem with the light-box system, are eliminated.

Setup and Lighting

The setup for this technique is, in general, much the same as you would have in taking a straight product picture. Lighting, however, will be slightly different. Our illustrations below show a typical setup for this two-exposure technique. Note the following points:



Setup for continuous-tone film exposure



Setup for high-contrast film exposure

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Subject

Use a support that is steady enough so that there is no danger of the subject being moved between the two exposures. This support should be as small as possible, because you will have to opaque it out on your background negative. You can also use a light table if the subject lends itself to this type of treatment. If a support other than a light table is used, keep the subject far enough from your background so that it will be convenient to light the subject and the background separately.

Lighting

Light the subject to provide maximum detail. You won't need to use any special lighting to give subject-background separation because this separation is provided by the white background. In fact, lighting used to provide separation can often cause a loss of detail around the edges of the subject, particularly if the subject has a high reflectivity (note this loss of detail on the upper right edge and on the ends of the handle of the pipe vise in our illustration).

Background

Use a piece of white paper large enough to cover the camera field. The lighting on the background must be very even, because the high-contrast film used to make the background exposure doesn't have a very wide exposure latitude.

Taking the Pictures

Films to Use

Background Picture—Use KODALITH Ortho Film, Type 3 (ESTAR Thick Base). Be sure to use a high-contrast developer, such as KODAK Developer D-8 or D-11. This will cut down on pinholes in your negative and will also reduce detail buildup in the subject area.
Subject Picture—Use an ESTAR-base continuous-tone film. ESTAR base has great dimensional stability which is necessary for quick and accurate registering of the two negatives in the printing step. We suggest using any of the following KODAK Films:

RS Pan (ESTAR Thick Base)
TRI-X Pan (ESTAR Thick Base)
PLUS-X Pan (ESTAR Thick Base)
LS Pan (ESTAR Thick Base)

Exposing the Film

It doesn't matter which exposure you make first, but be certain to observe the following points:

1. Treat each of the two exposures as a separate picture. Only the lights for the exposure being made should be on.

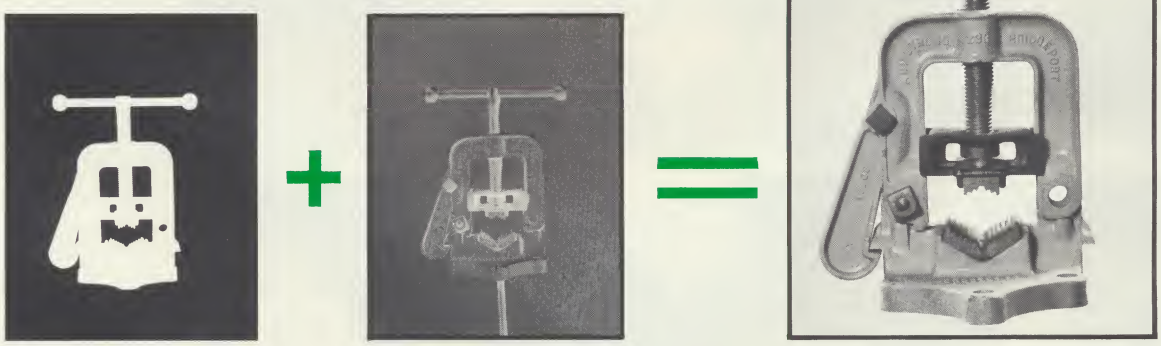
2. Be certain your camera is rock-steady, because it cannot be moved between the two exposures.

3. Set the lens at the same *f*-number for both exposures. Lenses can shift focus at various settings, and you must maintain the same depth of field for the two pictures.

4. When you make the background exposure, be certain that there are no specular reflections bouncing back onto your subject. Sometimes these reflections can be eliminated by keeping the white background only large enough to cover the camera field (using a longer focal-length lens will also achieve this). If necessary, black tape can be used to cover these reflections, but be careful not to move the subject when applying the tape.

5. Use film holders of the same manufacture. (You can also load one holder with the two films.)

More Information—You can find more help in KODAK Publication No. 0-16, *Studio Lighting for Product Photography*, priced at $1.00 and available either from your Kodak dealer or, by prepaid order, from Eastman Kodak Company.



Professional, Commercial and Industrial Markets Division

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